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NOTICE OF ALLOWANCE AND FEE(S) DUE

2292 7590 04/09/2008

BIRCH STEWART KOLASCH & BIRCH
PO BOX 747
FALLS CHURCH, VA 22040-0747

EXAMINER

YODER III, CHRISS S

ART UNIT

PAPER NUMBER

2622

DATE MAILED: 04/09/2008

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/618,699

07/15/2003

Masaya Tamaru

0649-0900P

4919

TITLE OF INVENTION: IMAGE PICKUP APPARATUS AND PHOTOMETER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1440	\$300	\$0	\$1740	07/09/2008

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

IMPORTANT REMINDER: Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

PART B - FEE(S) TRANSMITTAL

**Complete and send this form, together with applicable fee(s), to: Mail Mail Stop ISSUE FEE
Commissioner for Patents
P.O. Box 1450
Alexandria, Virginia 22313-1450
or Fax (571)-273-2885**

INSTRUCTIONS: This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

2292 7590 04/09/2008

BIRCH STEWART KOLASCH & BIRCH
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FALLS CHURCH, VA 22040-0747

Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)
(Signature)
(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/618,699 07/15/2003 Masaya Tamaru 0649-0900P 4919

TITLE OF INVENTION: IMAGE PICKUP APPARATUS AND PHOTOMETER

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
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nonprovisional NO \$1440 \$300 \$0 \$1740 07/09/2008

EXAMINER	ART UNIT	CLASS-SUBCLASS
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YODER III, CHRISS S 2622 348-364000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).

- ☐ Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.
- ☐ "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. **Use of a Customer Number is required.**

2. For printing on the patent front page, list

- (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, 1 _____
- (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed. 2 _____
- 3 _____

3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE (B) RESIDENCE: (CITY and STATE OR COUNTRY)

Please check the appropriate assignee category or categories (will not be printed on the patent) : ☐ Individual ☐ Corporation or other private group entity ☐ Government

4a. The following fee(s) are submitted:

- ☐ Issue Fee
- ☐ Publication Fee (No small entity discount permitted)
- ☐ Advance Order - # of Copies _____

4b. Payment of Fee(s); (Please first reapply any previously paid issue fee shown above)

- ☐ A check is enclosed.
- ☐ Payment by credit card. Form PTO-2038 is attached.
- ☐ The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)

- ☐ a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27. ☐ b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).

NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature _____

Date _____

Typed or printed name _____

Registration No. _____

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/618,699	07/15/2003	Masaya Tamaru	0649-0900P	4919
2292	7590	04/09/2008	EXAMINER	
BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			YODER III, CHRISS S	
			ART UNIT	PAPER NUMBER
			2622	
DATE MAILED: 04/09/2008				

Determination of Patent Term Adjustment under 35 U.S.C. 154 (b) (application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 686 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 686 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

Notice of Allowability

Application No.

10/618,699

Examiner

CHRISS S. YODER III

Applicant(s)

TAMARU ET AL.

Art Unit

2622

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 02/04/2008.
2. ☒ The allowed claim(s) is/are 1-3 and 7-9 (now renumbered 1-6).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).**
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|--|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date _____. |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____ | 7. <input type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Allowable Subject Matter

Claims 1-3 and 7-9 are allowed.

The following is an examiner's statement of reasons for allowance:

As for **claim 1**, the prior art does not teach or fairly suggest the use of an image pickup apparatus, comprising a solid-state image pickup device having high-sensitivity pixels and low-sensitivity pixels, a photometric characteristic of an output of the high-sensitivity pixels being different from that of the low-sensitivity pixels, wherein the high-sensitivity pixels have a first high-sensitivity exposure value range in which they function before becoming saturated and a second high-sensitivity exposure value range in which they function before becoming saturated and no exposure value in the first high-sensitivity exposure value range overlaps with an exposure value in the second high-sensitivity exposure value range, the low-sensitivity pixels have a first low-sensitivity exposure value range in which they function before becoming saturated and a second low-sensitivity exposure value range in which they function before becoming saturated and no exposure value in the first low-sensitivity exposure value range overlaps with an exposure value in the second low-sensitivity exposure value range, the exposure value at which the low-sensitivity pixels begin to function in the first low-sensitivity exposure value range coincides with the exposure value at which the high-sensitivity pixels become saturated in the first high-sensitivity exposure value range, and the exposure value at which the low-sensitivity pixels begin to function in the second low-sensitivity exposure value range coincides with the exposure value at which the high-sensitivity

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pixels become saturated in the second high-sensitivity exposure value range, control means for (i) calculating an exposure value based on values of signal detected by said high-sensitivity pixels operating in the first high-sensitivity exposure value range and values of signal detected by said low-sensitivity pixels operating in the first low-sensitivity exposure value range, which are output from said solid-state image pickup device in a first single instance of photometry, and (ii) when a correct exposure value cannot be obtained in the first single instance of photometry due to saturation of both the high-sensitivity pixels and the low-sensitivity pixels, calculating an exposure value based on values of signal detected by said high-sensitivity pixels operating in the second high-sensitivity exposure value range and values of signal detected by said low-sensitivity pixels operating in the second low-sensitivity exposure value range, which are output from said solid-state image pickup device in a second subsequent single instance of photometry, where during each of the first and second instance of photometry, aperture and electronic shutter speed are not changed, and signal processing means for reading data of an image picked up by said solid-state image pickup device and processing according to the calculated exposure value.

As for **claim 2**, the prior art does not teach or fairly suggest the use of an image pickup apparatus, comprising image pickup means for picking up a subject image, received light quantity detecting means having high-sensitivity pixels and low-sensitivity pixels, a photometric characteristic of an output of the high-sensitivity pixels being different from that of the low-sensitivity pixels, wherein the high-sensitivity pixels have a first high-sensitivity exposure value range in which they function before becoming

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saturated and a second high-sensitivity exposure value range in which they function before becoming saturated and no exposure value in the first high-sensitivity exposure value range overlaps with an exposure value in the second high-sensitivity exposure value range, the low-sensitivity pixels have a first low-sensitivity exposure value range in which they function before becoming saturated and a second low-sensitivity exposure value range in which they function before becoming saturated and no exposure value in the first low-sensitivity exposure value range overlaps with an exposure value in the second low-sensitivity exposure value range, the exposure value at which the low-sensitivity pixels begin to function in the first low-sensitivity exposure value range coincides with the exposure value at which the high-sensitivity pixels become saturated in the first high-sensitivity exposure value range, and the exposure value at which the low-sensitivity pixels begin to function in the second low-sensitivity exposure value range coincides with the exposure value at which the high-sensitivity pixels become saturated in the second high-sensitivity exposure value range, and control means for (i) calculating an exposure value based on signal showing received light quantity detected by said high-sensitivity pixels operating in the first high-sensitivity exposure value range and signal showing received light quantity detected by said low-sensitivity pixels operating in the first low-sensitivity exposure value range, which are output from said received light quantity detecting means device in a first single instance of photometry, and (ii) when a correct exposure value cannot be obtained in the first single instance of photometry due to saturation of both the high-sensitivity pixels and the low-sensitivity pixels, calculating an exposure value based on values of signal detected by said high-

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sensitivity pixels operating in the second high-sensitivity exposure value range and values of signal detected by said low-sensitivity pixels operating in the second low-sensitivity exposure value range, which are output from said solid-state image pickup device in a second subsequent single instance of photometry, and controlling said image pickup means to pick up a subject image according to the exposure value, where during each of the first and second instance of photometry, aperture and electronic shutter speed are not changed.

As for **claim 3**, the prior art does not teach or fairly suggest the use of a photometer which calculates a exposure value of the image pickup apparatus, comprising received light quantity detecting means having high-sensitivity pixels and low-sensitivity pixels, a photometric characteristic of an output of the high-sensitivity pixels being different from that of the low-sensitivity pixels, wherein the high-sensitivity pixels have a first high-sensitivity exposure value range in which they function before becoming saturated and a second high-sensitivity exposure value range in which they function before becoming saturated and no exposure value in the first high-sensitivity exposure value range overlaps with an exposure value in the second high-sensitivity exposure value range, the low-sensitivity pixels have a first low-sensitivity exposure value range in which they function before becoming saturated and a second low-sensitivity exposure value range in which they function before becoming saturated and no exposure value in the first low-sensitivity exposure value range overlaps with an exposure value in the second low-sensitivity exposure value range, the exposure value at which the low-sensitivity pixels begin to function in the first low-sensitivity exposure

value range coincides with the exposure value at which the high-sensitivity pixels become saturated in the first high-sensitivity exposure value range, and the exposure value at which the low-sensitivity pixels begin to function in the second low-sensitivity exposure value range coincides with the exposure value at which the high-sensitivity pixels become saturated in the second high-sensitivity exposure value range, and calculating means for (i) calculating the exposure value based on signal showing received light quantity detected by said high-sensitivity pixels operating in the first high-sensitivity exposure value range and signal showing received light quantity detected by said low-sensitivity pixels operating in the first low-sensitivity exposure value range, which are output from the received light quantity detecting means device in a first single instance of photometry, and (ii) when a correct exposure value cannot be obtained in the first single instance of photometry due to saturation of both the high-sensitivity pixels and the low-sensitivity pixels, calculating an exposure value based on values of signal detected by said high-sensitivity pixels operating in the second high-sensitivity exposure value range and values of signal detected by said low-sensitivity pixels operating in the second low-sensitivity exposure value range, which are output from said solid-state image pickup device in a second subsequent single instance of photometry, where during each of the first and second instance of photometry, aperture and electronic shutter speed are not changed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US006670993B1: note the use of an image pickup device that controls the dynamic range of the sensor based on a short and long exposure.

US 20040017498A1: note the use of an image sensor having pixels that output high and low sensitivity values for wider dynamic range.

US 20030001962A1: note the use of an image pickup device that controls the dynamic range of the sensor based on a short and long exposure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CHRISS S. YODER III whose telephone number is (571)272-7323. The examiner can normally be reached on M-F: 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lin Ye can be reached on (571) 272-7372. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Chriss S. Yoder, III/
Examiner, Art Unit 2622

/Tuan V Ho/

Primary Examiner, Art Unit 2622

Application/Control Number: 10/618,699
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